

FIG. 1

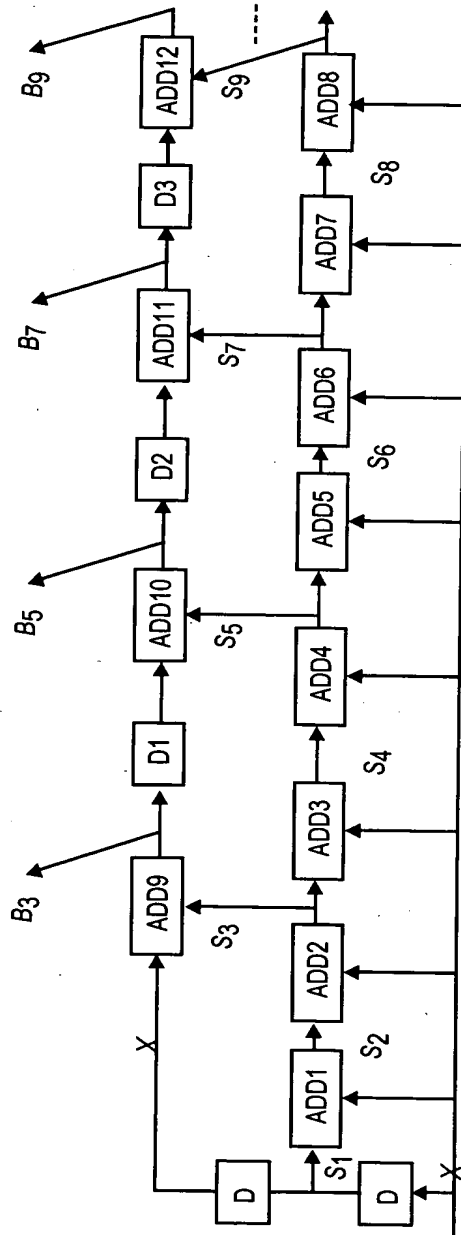


FIG. 2



$$P^{k \times k} = \begin{bmatrix} P_{0,0}^{k \times k} & P_{0,1}^{k \times k} & \dots & P_{0,N-1}^{k \times k} \\ P_{1,0}^{k \times k} & P_{1,1}^{k \times k} & \cdot & P_{1,N-1}^{k \times k} \\ \cdot & \cdot & \cdot & \cdot \\ \vdots & \cdot & P_{l,j}^{k \times k} & \vdots \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ P_{M-1,0}^{k \times k} & P_{M-1,1}^{k \times k} & \dots & P_{M-1,N-1}^{k \times k} \end{bmatrix}$$

FIG. 4

$$S = \begin{bmatrix} s_{0,0} & s_{0,1} & \dots & \cdot & s_{0,N-1} \\ s_{1,0} & \cdot & \cdot & \cdot & s_{1,N-1} \\ \cdot & \cdot & s_{i-1,j} & s_{i-1,j+1} & \cdot \\ \vdots & \cdot & s_{i,j} & s_{i,j+1} & \vdots \\ \cdot & \cdot & s_{i+1,j} & s_{i+1,j+1} & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ s_{M-1,0} & s_{M-1,1} & \dots & \cdot & s_{M-1,N-1} \end{bmatrix}$$

FIG. 5

$$F_{k \times k} = \begin{bmatrix} 1 \\ 2 \\ 3 \\ \vdots \\ \frac{k+1}{2} \\ 2 \\ \vdots \\ 3 \\ 2 \\ 1 \end{bmatrix} * \begin{bmatrix} 1 & 2 & 3 & \dots & \frac{k+1}{2} & 4 & 3 & 2 & 1 \end{bmatrix}$$

$$= \begin{bmatrix} 1 & 2 & 3 & \dots & \frac{k+1}{2} & \dots & 3 & 2 & 1 \\ 2 & 4 & 6 & \dots & \frac{2(k+1)}{2} & \dots & 6 & 4 & 2 \\ 3 & 6 & 9 & \dots & \frac{3(k+1)}{2} & \dots & 9 & 6 & 3 \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{k+1}{2} & \frac{2(k+1)}{2} & \frac{3(k+1)}{2} & \dots & \frac{(k+1)*(k+1)}{4} & \dots & \frac{3(k+1)}{2} & \frac{2(k+1)}{2} & \frac{k+1}{2} \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ 3 & 6 & 9 & \dots & \frac{3(k+1)}{2} & \dots & 9 & 6 & 3 \\ 2 & 4 & 6 & \dots & \frac{2(k+1)}{2} & \dots & 6 & 4 & 2 \\ 1 & 2 & 3 & \dots & \frac{k+1}{2} & \dots & 3 & 2 & 1 \end{bmatrix}$$

FIG. 6

$$F_{11 \times 11} = \begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 2 & 3 & 4 & 5 & 6 & 5 \\ 3 & 4 & 5 & 6 & 5 & 4 \\ 4 & 5 & 6 & 5 & 4 & 3 \\ 5 & 6 & 5 & 4 & 3 & 2 \\ 6 & 5 & 4 & 3 & 2 & 1 \end{bmatrix} * \begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 2 & 4 & 6 & 8 & 10 & 12 \\ 3 & 6 & 9 & 12 & 15 & 18 \\ 4 & 8 & 12 & 16 & 20 & 24 \\ 5 & 10 & 15 & 20 & 25 & 30 \\ 6 & 12 & 18 & 24 & 30 & 36 \end{bmatrix} = \begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 2 & 4 & 6 & 8 & 10 & 12 \\ 3 & 6 & 9 & 12 & 15 & 18 \\ 4 & 8 & 12 & 16 & 20 & 24 \\ 5 & 10 & 15 & 20 & 25 & 30 \\ 6 & 12 & 18 & 24 & 30 & 36 \end{bmatrix}$$

FIG. 7

$$P^{1 \times k} = \begin{bmatrix} \begin{matrix} 1 \times k \\ P_{0,0} \end{matrix} & \begin{matrix} 1 \times k \\ P_{0,1} \end{matrix} & \dots & \begin{matrix} 1 \times k \\ P_{0,N-1} \end{matrix} \\ \begin{matrix} 1 \times k \\ P_{1,0} \end{matrix} & \begin{matrix} 1 \times k \\ P_{1,1} \end{matrix} & \dots & \begin{matrix} 1 \times k \\ P_{1,N-1} \end{matrix} \\ \vdots & \vdots & \ddots & \vdots \\ \begin{matrix} 1 \times k \\ P_{i,j} \end{matrix} & \dots & \dots & \dots \\ \vdots & \vdots & \dots & \vdots \\ \begin{matrix} 1 \times k \\ P_{M-1,0} \end{matrix} & \begin{matrix} 1 \times k \\ P_{M-1,1} \end{matrix} & \dots & \begin{matrix} 1 \times k \\ P_{M-1,N-1} \end{matrix} \end{bmatrix}$$

FIG. 8



$$P^{k \times 1} = \begin{bmatrix} P_{0,0}^{k \times 1} & P_{0,1}^{k \times 1} & \dots & P_{0,N-1}^{k \times 1} \\ P_{1,0}^{k \times 1} & P_{1,1}^{k \times 1} & \dots & P_{1,N-1}^{k \times 1} \\ \vdots & \vdots & \vdots & \vdots \\ P_{i,j}^{k \times 1} & \vdots & P_{i,j}^{k \times 1} & \vdots \\ \vdots & \vdots & \vdots & \vdots \\ P_{M-1,0}^{k \times 1} & P_{M-1,1}^{k \times 1} & \dots & P_{M-1,N-1}^{k \times 1} \end{bmatrix}$$

FIG. 9